

Claims

1. Arrangement (1) of an electrical component (3) on a substrate (2), with a film (5) comprising a plastic material being present and at least one part (52) of the film (5) being connected to the component (3) and the substrate (2) such that a surface contour (11) defined by the component (3) and the substrate (2) is mapped in a surface contour (51) of the part (52) of the film (5),
characterized in that

the film (5) comprises a composite material as well as the plastic material and at least one filler material that is different from the plastic material.

2. Arrangement according to claim 1, with a coefficient of thermal expansion of the composite material being adjusted to a coefficient of thermal expansion of a material of the component.

3. Arrangement according to claim 2, with the coefficient of thermal expansion being selected from the range from 7 ppm/K to 50 ppm/K.

4. Arrangement according to one of claims 1 to 3, with the filler material being thermally and/or electrically conductive.

5. Arrangement according to one of claims 1 to 4, with the filler material being in powder and/or fiber form.

6. Arrangement according to one of claims 1 to 5, with at least one further film (6) being present and at least one further part (62) of the further film (6) being connected to

the component (3) and the substrate (2) such that the surface contour (11) of the component (3) and the substrate (2) is mapped in a further surface contour (61) of the further part (61) of the further film (6).

7. Arrangement according claim 6, with the further film (6) comprising a further composite material, in which at least one further filler material that is different from the filler material is present.

8. Arrangement according to one of claims 1 to 7, with the component (2) being a semiconductor component.

9. Arrangement according to claim 8, with the semiconductor component being a power semiconductor component selected from the MOSFET, IGBT and/or bipolar transistor group.

10. Method for producing an arrangement according to one of claims 1 to 9, with the method steps:

a) preparation of an arrangement of at least one electrical component on a substrate and
b) laminating the film with the composite material onto the component and the substrate, such that the surface contour defined by the component and the substrate is mapped in the surface contour of the film.

11. Method according to claim 10, with the film being laminated into place by vacuum-lamination.

12. Method according to claim 10 or 11, with a tempering step being carried out during and/or after lamination of the film.

13. Method according to one of claims 10 to 12, with a film (5) and/or a further film (6) with at least one plastic material selected from the polyimide, polyethylene, polyphenol, polyetheretherketone and/or epoxy resin group being used.